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ABSTRACT

Of 10 participating inner-city school teachers, five used a modified basal series, and five used the language experience approach for reading instruction. Monthly training sessions were held, and the Medley and Smith's Observation Scale and Rating-Reading was used to lend objectivity to the monthly observations of each teacher. The following instruments were administered to the pupils: the Otis-Lennon Mental Abilities Test in January, an adaptation of Eunice Askov's Primary Pupil Attitude Inventory in March, and the California Reading Test in May. Analysis of covariance was made with two criterion variables, reading achievement and attitude data. The independent and control variables were sex, intelligence, reading method, teacher experience and professional background, teaching style, and reading time in class. It was concluded that (1) for both achievement and attitude, no significant differences occurred between the two groups when classes were treated as units; (2) achievement differences favored the language experience groups when pupils were treated as units; (3) when Unifon classes were treated as a third group, no significant differences occurred between groups; and (4) when analysis of variance was used, findings showed that girls in the modified basal series were significantly superior in total reading and in IQ. Tables are included. (AW)

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Summary: The Language Experience Approach for Teaching Beginning Reading to Culturally Disadvantaged Pupils

The purpose of this study was to investigate the effectiveness of the language experience approach to beginning reading instruction when used with pupils classified and described as culturally different or culturally disadvantaged.

An obvious advantage of this approach to beginning reading with inner-city pupils appears to be the close relationship established between speech and print. The child sees his words written almost as soon as they are spoken. Moreover, the content of this material is of greater relevance and significance to the child than that of many if not most pre-primers.

Research evidence from the First Grade Studies is conflicting and contradictory in nature. Harris and Serwer (1967) concluded that culturally disadvantaged pupils "can learn to read" using the language experience approach. However, they found no experimental evidence strongly supporting this approach. Theirs was the only study concerned exclusively with culturally disadvantaged children in which the language experience approach was evaluated. Particularly in view of opinions expressed by Baratz, Stewart, and Shuy (1969) it seemed important to investigate further the effectiveness of an approach to reading instruction at the beginning levels based on the non-standard oral language of children categorized by teachers and administrators as disadvantaged.

The hypotheses of this study were as follows:

1. The reading achievement of pupils using the language experience approach will be superior to the reading achievement of pupils using more traditional approaches, generally classified as modified basal reader approaches, when achievement is measured by standardized tests.

2. The attitudes of pupils using the language experience approach will be superior to that of pupils using the basal readers.

Ten teachers in inner-city schools in Indianapolis, Indiana volunteered to participate in this study. Five teachers agreed to continue using a modification of the programs advocated by the authors and publishers of the basal series they were currently using. Five teachers volunteered to use the language experience approach, with which they were acquainted but had not used.

Each teacher received a small honorarium, and controlled a small supplies and equipment budget.

Monthly "training" sessions were held, dealing with topics of general interest (word analysis skills, for example) or of more concern to one group than the other (should non-standard syntex or grammar be changed in transcribing). Resource people worked with one group while the other discussed specific concerns with the researcher, and time was equally divided between the two groups. Administrators and teachers both said they felt the sessions were extremely beneficial in upgrading the teaching of reading.

To lend objectivity to the monthly observations of each teacher, Medley and Smith's Observation Scale and Rating-Reading (1964) was used. Appropriate sections of a card are marked during three ten minute observation periods. A stop watch was used and all observations were made and recorded by the researcher.

A log sheet, indicating the various activities within a reading instructional period and the time devoted to each, was kept by each teacher for one week each month. These were discussed and compared at each meeting in order to exert some control over the time variable.

The Otis-Lennon Mental Abilities Test was administered and scored in January of 1970. An adaptation of Eunice Askov's Primary Pupil Attitude Inventory (AERA, 1969) was administered in March to assess possible attitude differences. In May, the California Reading Test was administered and scored in order to assess reading achievement.

Two versions of BMED Programs for analysis of covariance were made with the two criteria variables, reading Achievement (CRT scores) and the attitude data (Askov scores). The independent and control variables

were the sex of pupils, intelligence (scores on the Otis Lennon), reading method (Experimental I - Basal, Experimental II - Language Experience), teacher experience and professional background, - teaching style (data from the OScaR-R), and reading time in class (the logs). In one program classes were treated as units. In one other, pupil units were the bases for analysis. Data were also analyzed using one way analysis of variance.

The results of all these analyses suggest that there are not significant differences in attitude between the two groups. In two factors, the total reading scores for the girls and intelligence test scores, girls, the Experimental I group scored at a significantly higher level than the Experimental II pupils when achievement and attitude were the major variables.

These results corroborate those of the majority of the First Grade Studies in which the language experience approach was not found to be significantly superior in terms of reading achievement.

The results of this study involving ten first grade classes in inner-city classes fail to lend strong support to the position taken by Baratz, Shuy and others, that the oral language of so-called culturally disadvantaged pupils forms the most effective basis for beginning reading instruction. The two experimental groups did not differ significantly in achievement or in attitude toward reading, except in one analysis. It cannot be claimed that either hypothesis is supported.

Analysis of Data: Statistical Procedures and Results

The data were analyzed using analysis of covariance and analysis of variance models.

First Analysis

For the series of analyses using classes as the unit of analysis the method employed was "BMD03V, Analysis of Covariance for Factorial Design."[1]

The basic design was a two factor one in which membership in either the Experimental I or the Experimental II group and sex of the pupils were the independent variables. The dependent variable for evaluating achievement was the raw score, Total Achievement sub score, of the California Achievement Test Reading Scale. The dependent Variable for the assessment of attitude was the number of choices which favored reading as an activity on the Primary Pupil Reading Attitude Inventory. A two by two factor analysis of covariance design was employed. Eight covariates were included. Seven of these were:

1. Mean deviation I.Q. scores on the Otis Lennon for each sex by class.
2. The number of years and part years of formal professional education of each teacher.
3. The number of years and part years of teaching experience for each teacher.

[1] B.M.D. Biomedical Computer Programs, W. J. Dixon, editor. Los Angeles, California, University of California, Los Angeles, 1965.

4. The three covariates representing the mean scores of interchange on the OScAR-R.
5. Total scores from the "Static" side of the OScAR-R rating card.
6. Total scores from the "Dynamic" side of the OScAR-R rating card.
7. Mean scores representing time allotments for various facets of the reading program, as reported on the log sheets maintained by each teacher.

The final covariate was the alternate dependent variable. the mean Total Reading Scores by sex and class, when evaluating attitude, and the mean Primary Pupil Attitude Inventory Scales by sex and class, when evaluating achievement. Table I is a summary of the findings when data were analyzed in this manner:

TABLE I

ANALYSIS OF DATA, DEPENDENT VARIABLES: SIGNIFICANCE OF FINDINGS: CLASS UNITS

Variable I (Attitude)

Source of Variation	Degrees of Freedom	Mean Square	F	P
Method	1	7.33	2.74	ns
Sex	1	1.37	1.00	ns
Method x Sex	1	5.12	1.91	ns
Within Replicates (error term)	8	2.68		

TABLE I (cont'd)

Variable II (Achievement)

Source of Variation	Degrees of Freedom	Mean Square	F	P
Method	1	13.85	1.45	ns
Sex	1	16.29	1.00	ns
Method x Sex	1	11.86	1.24	ns
Within Replicates (error term)	8	9.58		

In no case did difference between the two groups prove to be significant at the .05 level when the data were analyzed in this manner. Clearly, the hypotheses regarding relative levels of achievement and attitude were not supported.

Second Analysis

A second analysis, Analysis of Covariance with Multiple Covariates, (BMD04V)[2] used pupils rather than classes as units. Each pupil's score on the California Reading Test and his score on the Primary Pupil Reading Attitude Inventory were the dependent variables. The covariates included the teacher preparation and experience data, log sheet time allotment data, pupils' I.Q. scores, and mean class scores on the OScAR-R (Mean scores were used because the teacher rather than an individual pupil is the focus of the observation).

[2] Dixon, op. cit.,

Although the population for this study remained unusually stable (78% of the pupils who were enrolled in September were in the same class or in a class using the same approach in June), not all pupils whose scores were used in the previous analysis were present or enrolled during the three major data gathering sessions or series of sessions (administration of the Attitude Inventory, the Otis Lennon, and the California Reading Test). The populations for the analysis presently discussed were restricted to those pupils who had participated in the program without interruption, from January through June, 1970. Pupils for whom one or more of these scores were not available were excluded from the data base for this analysis.

This analysis requires an equal sample size for each cell in the matrix. Therefore, the group having the smallest number of members was included, in toto. Excess data for the other three cells were randomly discarded prior to analysis. Table II includes the findings for the total Reading (Achievement) Scores, Boys, two methods contrasted, with null nypothesis, no significant differences between the two groups.

TABLE II

ANALYSIS OF COVARIANCE TABLE:
TOTAL READING, BOYS

Source	df	YY	SS (Due)	SS (About)	df	MS	F	p
Treatment (Between)	1	72.25						
Error (Within)	98	21353.06	11113.35	10239.70	90	113.77		
Treatment + Error (Total	99	21425.31	9941.22	11484.09	91			
Difference for Testing Adjusted Treatment Means...				1244.38	1	1244.38	10.94	<.01

The null hypothesis is not supported, and the difference between the two groups Total Reading, Boys, favors the Experimental II group, with the difference significant at the .01 level.

Attitude data for boys are reported in Table III.

TABLE III

ANALYSIS OF COVARIANCE TABLE:
ATTITUDE, BOYS

Source	df	YY	SS (Due)	SS (About)	df	MS	F	p
Treatment (Between)	1	50.41						
Error (Within)	98	3224.10	192.01	3032.09	90	33.69		
Treatment + Error (Total)	99	3274.51	235.42	3039.09	91			
Difference for Testing Adjusted Treatment Means...				7.00	1	7.00	.21	ns

There was no significant difference in attitude as measured by the inventory, between the two groups of boys. The null hypothesis is supported.

Achievement and Attitude data for girls are reported in Tables V and IX.

TABLE IV

ANALYSIS OF COVARIANCE TABLE
TOTAL READING, GIRLS

Source	df	YY	SS (Due)	SS (About)	df	MS	F	p
Treatment (Between)	1	11.56						
Error (Within)	98	18229.40	8096.46	10132.94	90	112.59		
Treatment + Error (Total)	99	18240.96	7162.41	11078.55	91			
Difference for Testing Adjusted Treatment Means...				945.61	1	945.61	8.40	<.01

The differences are significant at the .01 level, and the differences favor the Experimental II girls.

TABLE V

ANALYSIS OF COVARIANCE TABLE:
ATTITUDE, GIRLS

Source	df	YY	SS (Due)	SS (About)	df	MS	F	p
Treatment (Between)	1	1.00						
Error (Within)	98	2018.76	314.07	1704.69	90	18.94		
Treatment + Error (Total)	99	2019.76	312.90	1706.86	91			
Difference for Testing Adjusted Treatment Means...				2.16	1	2.16	.114	ns

The differences between the two groups of girls are not significant, and the null hypothesis is supported.

In summary, the results of the analyses of covariance, pupil units, found significant differences in achievement for boys, favoring the Experimental II pupils and in achievement for girls, also favoring Experimental II pupils. No significant differences in attitude were apparent when data were analyzed in this manner.

Third Analysis

Two of the classes utilized Unifon, a unique orthographic system (Malone, 1962), which, although it involves the use of a graded series of reading materials and thus might be properly considered one of the modified basal approaches, also involves much recording of pupils own dictated material. To see whether or not significant differences might appear, Unifon groups were treated as different from the other two. Tables VI through IX (BMDO4V, Version of April 1, 1966)[3] present the findings when data were analyzed in this manner. In each case, the null hypothesis was tested, that is that there would be no significant difference between the three groups, Experimental I, Experimental II (without Unifon) and Unifon.

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[3]Dixon, op.cit.

TABLE VI

ANALYSIS OF COVARIANCE TABLE:
ATTITUDE, BOYS (3 METHODS)

Source	df	YY	SS (Due)	SS (About)	df	MS	F	p
Treatment (Between)	2	254.33						
Error (Within)	69	2197.17	179.58	2017.58	61	33.08		
Treatment + Error (Total)	71	2451.50	388.18	2063.32	63			
Difference for Testing Adjusted Treatment Means...				45.74	2	22.87	.69	ns

The difference between the three groups is not significant, and the null hypothesis is supported.

TABLE VII

ANALYSIS OF COVARIANCE TABLE:
ACHIEVEMENT, BOYS (3 METHODS)

Source	df	YY	SS (Due)	SS (About)	df	MS	F	p
Treatment (Between)	2	3728.36						
Error (Within)	69	14451.42	5353.12	9098.30	61	149.15		
Treatment + Error (Total)	71	18179.78	8737.66	9442.12	63			
Difference for Testing Adjusted Treatment Means...				343.82	2	171.91	1.15	ns

The difference between the three groups is not significant, and the null hypothesis is supported.

TABLE VIII

ANALYSIS OF COVARIANCE TABLE:
ACHIEVEMENT, GIRLS (3 METHODS)

Source	df	YY	SS (Due)	SS (About)	df	MS	F	p
Treatment (Between)	2	1928.11						
Error (Within)	69	11106.88	4121.06		61	114.52		
Treatment + Error (Total)	71	13034.99	5623.12	7411.87	63			
Difference for Testing Adjusted Treatment Means...				426.05	2	213.03	1.86	ns

While there is not strong support for any method, the null hypothesis is not supported, and there is implied superiority of both the basal and Unifon methods when compared with the language experience.

TABLE IX

ANALYSIS OF COVARIANCE TABLE:
ATTITUDE, GIRLS (3 METHODS)

Source	df	YY	SS (Due)	SS (About)	df	MS	F	p
Treatment (Between)	2	55.03						
Error (Within)	69	816.08	73.83	742.25	61	12.17		
Treatment + Error (Total)	71	871.11	105.52	765.59	63			
Difference for Testing Adjusted Treatment Means...				23.34	2	11.67	.99	ns

The difference between the three groups of girls is not significant. The null hypothesis is supported.

Fourth Analysis

An Analysis of Variance, One Way Design (BMD01V)[5] was computed, in an attempt to remove interaction effects. Table X reports the results of this analysis.

TABLE X

COMPARISON OF MEAN SCORES,
DEPENDENT VARIABLES,
CONSIDERED WITHOUT INTERACTION

Variable	Exp. I	Exp. II	F Ratio
I.Q. - boys	84.7455	82.3231	1.0243
I.Q. - girls	88.7000	84.0303	4.7474*
Attitude - boys	9.6909	9.4769	< 1
Attitude - girls	10.0600	10.3333	< 1
Teacher education	5.0000	4.6000	2.6667
Teacher experience	5.7200	5.1200	< 1
OScAR-R, statement	177.0000	171.0000	< 1
OScAR-R, static	122.4000	130.8000	< 1
OScAR-R, interchange	173.6000	134.2000	1.1691
Log Data	153.0760	144.4400	< 1
Total Read - girls	49.6000	44.4400	4.1768*
Total Read - boys	45.2000	43.2769	< 1

*significant at the .05 level

When interaction effects are removed, an analysis of variance indicates that Experimental I Girls are superior in terms of scores on the Otis Lennon and total reading scores on the California Reading Test.

Conclusions

To review, the findings, when analyses of covariance were used, they were as follows:

1. When classes were treated as units, no significant differences between the two groups were observed. This was true for both the achievement and the attitude variables.
2. When pupils were treated as units, achievement differences, for boys and girls, favored the Experimental II groups (Modified Basal).
3. When the Unifon classes were treated as a third group, differences between the three groups were not statistically significant. There was an implied superiority of the basal and Unifon methods, achievement, girls when contrasted with the Language Experience Approach. The similarity of the Unifon and the Language Experience Methods evidently did not "contaminate" the data.
4. When analysis of variance was used, findings indicate that the Experimental I (Language Experience) girls were significantly superior in Total Reading and in I.Q., as measured by the Otis Lennon.